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PATENT & TRADEMARK OFFICE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): Thomas C. Harrop

Serial No.: 09/702,160 **Examiner:** Pwu, Jeffrey C.

Filing Date: October 30, 2000 **Group Art Unit:** 2143

Title: Method and System for Predictive Enterprise Resource Management

Mail Stop Appeal Brief-Patents
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TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on May 5, 2006

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) **$500.00**.

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☐ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)(1)-(5)) for the total number of months checked below:

☐	one month	$ 120.00
☐	two months	$ 450.00
☐	three months	$1020.00
☐	four months	$1590.00

☐ The extension fee has already been filled in this application.

☒ (b) Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **50-1078** the sum of $500.00. At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **50-1078** pursuant to 37 CFR 1.25.

A duplicate copy of this transmittal letter is enclosed.

☒ I hereby certify that this correspondence is being deposited with the United States Postal Service as express mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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☐ I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

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Typed Name: Jacob N. Erlich

Signature:

Respectfully submitted,

Thomas C. Harrop

By

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Date: July 5, 2006

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CERTIFICATE OF EXPRESS MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as Express Mail, Label No. EV 794016465 US, in an envelope addressed to: Mail Stop Appeal Brief – Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on July 5, 2006.

Jacob N. Erlich
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UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS AND INTERFERENCES

Appl. No.	: 09/702,160	Conf. No.	: 1336
Filed	: October 30, 2000	TC/A.U.	: 2143
Examiner	: Pwu, Jeffrey C.	Appellant	: Thomas C. Harrop
Docket No.	: 10010607-1 (28579-204)	Customer No.	: 022878
Title	: METHOD AND SYSTEM FOR PREDICTIVE ENTERPRISE RESOURCE MANAGEMENT		
Priority date	: October 30, 2000		

Re: Appeal Brief

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TO: Mail Stop Appeal Brief - Patents
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APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Sir:

This is an appeal from the Final Rejection dated January 5, 2006 (Final Rejection) of claims 1-53, 55-58 in the above-identified application. This Appeal Brief is timely filed, being filed on or before July 9, 2006, two months from the receipt of the Notice of Appeal in the USPTO. The Director of Patents and Trademarks is hereby authorized to charge the appropriate large entity fee under 37 C.F.R. § 1.117(c) or to credit any overpayment of fees to Deposit Account No. 03-2410 (Order 28579-204).

Table of Contents

I. REAL PARTY OF INTEREST

The real party in interest is the Assignee, Agilent Technologies, Inc., having offices at Loveland, CO.

II. RELATED APPEALS AND INTERFERENCES

None.

III. STATUS OF CLAIMS

Original claims 1-53 together with added claims 55-58, remain pending in this application. Claim 54 was previously cancelled without prejudice. Claims 1, 15, and 30 are independent claims. The claims currently on appeal are claims 1-53, and 55-58. No claims were allowed, claims 1-53 and 55-58 stand rejected under 35 U.S.C. § 102(e). A copy of the claims on appeal is provided in the Claims Appendix.

Appellant respectfully points out that on page 3 in paragraph 7 of the Final Rejection, the Examiner states a rejection of claims 1-53 and 55-56 under 35 U.S.C. § 102, but then on page 17 in paragraph 7 of the Final Rejection, the Examiner has rejected claims 57 and 58. Appellant believes that paragraph 7 of the Final Rejection contains a typographical error and should have read "Claims 1-53 and 55-58 are rejected under 35 U.S.C. § 102(e) . . ." Appellant's Notice of Appeal contains the same typographical error. Appellant herein argues claims 1-53 and 55-58 as rejected in the body of the Final Rejection.

IV. STATUS OF AMENDMENTS

The Response After Final amending independent claims 1, 15, and 30 to clarify terminology, dependent claims 4-7, 13, 16, 28, 31, 34-36, 43, and 52 to correct informal errors and provide consistency with amendments to independent claims, and dependent claims 9, 11, and 14 to further define and clarify the invention, dated March 6, 2006, was not entered per the Advisory Action dated April 6, 2006.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claims 1, 15, and 30, are involved in this appeal. Dependent claims 2-53 and 55-58 are also involved in this appeal and are argued separately. With respect to the 35 U.S.C. § 102 rejection, claims 5, 9, 11, 13, 14, 16, 18, 19, and 31-34 have not been argued separately, but are considered patentable by virtue of the patentability of the independent claims upon which they depend, 1, 15, and 30.

Independent claims 1, 15, and 30 claim a method and system for managing a network including polling (by at least one polling gateway) resources of the network (one or more network elements) to gather real-time status information about the network for one or more network elements (Appellant's Specification, page 8, line 13, page 15, lines 22-23, page 24, lines 8-9, 16-19); evaluating performance of the network by identifying network-wide patterns in the gathered real-time status information, by at least one processor-based management server communicatively coupled to a polling gateway (Appellant's Specification, page 25, lines 7-8, page 24, line 27, page 25, line 4); and based on the result of said step of evaluating, providing a prediction (by the at least one processor-based management server) of a future network-wide performance problem, where the at least one processor-based management server includes software code executing thereon, where the software code learns a condition for predicting the network-wide performance problem within one or more layers of the network (Appellant's Specification, page 9, lines 1-4, page 24, lines 3-13, 21-19, page 26, lines 15-21, page 8, lines 25-27).

Dependent claims 2, 23, and 38 claim determining an action for preventing the future network-wide performance problem from occurring, where the action is for attempting to prevent the network-wide performance problem predicted by the detection of the defined condition (Appellant's Specification, page 9, lines 6-7).

Dependent claims 3, 22, and 37 claim determining the action from at least one previously defined rule, where the rule defines an action for at least one processor-based management server to respond to a defined condition being detected (Appellant's Specification, page 26, lines 6-9 and 19-21).

Dependent claims 4, 24, and 39 claim initiating the action before the future network-wide performance problem occurring in an attempt to prevent the future network-wide performance problem upon detection of a defined condition (Appellant's Specification, page 9, lines 8-10).

Dependent claim 5 claims correlating the real-time status information with at least one previously defined rule (Appellant's Specification, page 27, lines 9-12).

Dependent claims 6, 25, and 40 claim that the at least one previously-defined rule defines a known pattern for the gathered real-time status information that foreshadows the occurrence of the future network-wide performance problem (Appellant's Specification, page 27, lines 14-20). Dependent claims 26 and 41 claim that at least one rule defines statistical analysis of said status information that foreshadows the occurrence of said network-wide performance problem (Appellant's Specification, page 25, lines 1-4). Dependent claims 27 and 42 claim that at least one rule defines a known correlation of status information that foreshadows the occurrence of said network-wide performance problem (Appellant's Specification, page 25, lines 4-7).

Dependent claims 7, 28, and 43 claim the future network-wide performance problem is caused by anyone or more of the problems selected from operability problem of the resources of the network, operability problem of the network, failure of the resources of the network, failure of the network, integrity problem of the resources of the network, integrity problem of the network, efficiency problem of the resources of the network, efficiency problem of the network, decreased processing speed of the resources of the network, decreased processing speed of the network, usage capacity problem of the resources of the network, and usage capacity problem of the network (Appellant's Specification, page 3, lines 23-24, page 4, lines 27-29, page 27, line 25 – page 28, line 2).

Dependent claims 8, 29, and 44 claim wherein said step of polling resources includes gathering the real-time status information for anyone or more of: network status, disk status, database status, memory status, CPU status, and operating system status (Appellant's Specification, page 24, lines 8-9, 16-19).

Dependent claim 10 claims that at least one previously defined rule includes at least one user defined rule (Appellant's Specification, page 24, lines 23-24, page 25, lines 14-15).

Dependent claims 12 and 17 claim at least one previously defined rule correlating disparate network elements (Appellant's Specification, page 26, lines 6-8, page 28, lines 4-7).

Dependent claims 20 and 35 claim disparate network elements include network elements that communicate in different network protocols (Appellant's Specification, page 21, lines 14-17).

Dependent claims 21 and 36 claim disparate network elements include network elements selected from SNMP network elements, CMIP network elements, and network elements using TCP/IP protocol (Appellant's Specification, page 18, lines 24-26, page 21, lines 14-17).

Dependent claim 45 claims that at least one network element is represented as an object within object-oriented software executing on the processor-based server, said object having one or more attributes for which said status information may be gathered (Appellant's Specification, page 22, lines 6-16).

Dependent claim 46 claims correlating the real-time status information with at least one previously defined rule, correlating of one or more attributes of one or more objects to define the prediction of said network-wide performance problem (Appellant's Specification, page 8, lines 23-24, page 17, lines 17-18, page 20, line 25 – page 12, line 3, page 22, lines 12-13, page 25, lines 4-8, page 28, lines 17-19).

Dependent claims 47, 50, 53, 55, 57, and 58 claim wherein said management system includes a business management layer, a service management layer, a network management layer, or an element management layer (Appellant's Specification, page 16, lines 3-6, page 19, lines 8-27).

Dependent claims 48, 51, 52, and 56 claim that the network-wide performance problem includes a business, service, or network performance problem (Appellant's Specification, page 19, lines 8-27).

Dependent claim 49 claims that at least one network element includes an electronic commerce system for processing commercial transactions with customers via the Internet, and wherein said business performance problem includes a problem resulting in inability of said electronic commerce system processing said commercial transactions (Appellant's Specification, page 19, lines 8-27).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

(a) Dependent claim 4 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

(b) Dependent claim 5 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

(c) Independent claims 1, 15, and 30 (and dependent claims 2-14, 16-29, 31-53, and 55-58) are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel, United States Patent # 6,058,260, issued on May 2, 2000 (Brockel).

(d) Dependent claims 2, 23, and 38 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(e) Dependent claims 3, 22, and 37 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(f) Dependent claims 4, 24, and 39 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(g) Dependent claims 6, 25-27, and 40-42 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(h) Dependent claims 7, 28, and 43 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(i) Dependent claims 8, 29, and 44 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(j) Dependent claim 10 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(k) Dependent claims 12 and 17 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(l) Dependent claims 20 and 35 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(m) Dependent claims 21 and 36 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(n) Dependent claim 45 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(o) Dependent claim 46 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(p) Dependent claims 47, 50, 53, 55, 57, and 58 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(q) Dependent claims 48, 51, 52, and 56 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(r) Dependent claim 49 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

(s) Dependent claims 5, 9, 11, 13, 14, 16, 18, 19, and 31-34 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

VII. ARGUMENT

It is submitted that

(1) dependent claim 4 meets the statutory requirements of 35 U.S.C. § 112, first paragraph, and thus the rejection under 35 U.S.C. § 112, first paragraph, should be withdrawn;

(2) dependent claim 5 is not vague and indefinite and thus the rejection of claim 5 under 35 U.S.C. § 112, second paragraph, should be withdrawn; and

(3) that the reference, Brockel, does not teach or disclose the invention as required by claims 1-53 and 55-58 because (a) it is well-known in the law that, under 35 U.S.C. § 102, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference" *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628 (CAFC, 1987), M.P.E.P. § 2131, and, (b) as provided by the remarks set forth below, this is clearly not the case with the present rejection of the claims under 35 U.S.C. § 102. Further, Appellant asserts that a rejection under 35 U.S.C. § 103 would be inappropriate as well.

A. Dependent claim 4 is rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

On page 2, in paragraphs 1-2, the Examiner states that claim 4 is rejected as failing to comply with the written description requirement. The Examiner states that the closure (sic) lacks clear written description in the description of how to initiate an action for preventing performance problem occurring in an attempt to prevent the future network-wide performance problem.

Appellant respectfully directs the Examiner to Appellant's Specification, page 30, line 3 – page 32, line 8. This passage provides a scenario in which a network resource (a swap file on a gateway) is predicted to be at capacity. On page 32, lines 2-3, Appellant's Specification states that "the rule may also initiate a command in an attempt to add more swap space, since it has reached the threshold of 80%". Appellant asserts that the act of initiating a command is an example of Appellant's claimed "initiating the action before the future network-wide performance problem occurs" because an attempt is made to add more swap space (an action) before the resource is completely exhausted (before the

future network-wide performance problem occurs). The lack of swap space would clearly cause a performance issue. Appellant asserts that claim 4 meets the statutory requirements of 35 U.S.C. § 112, first paragraph, and thus the rejection under 35 U.S.C. § 112, first paragraph, should be withdrawn.

B. Dependent claim 5 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

On pages 2-3, in paragraphs 3-4, the Examiner states that claim 5 is rejected under 35 U.S.C. § 112, second paragraph.

On page 2, in paragraph 4, the Examiner states that claim 5 is vague and indefinite because it is unclear how to correlate the real-time status information with one previously defined rule.

Appellant directs the Examiner to Appellant's Specification, page 30, lines 17-22, which states that "a gateway polls the system and sends the information to the MS. . . the MS determines that the "system swap" (Swapa attribute of object SYSR of Appellant's FIG. 11) is at 70 percent of its capacity . . . [A] rule may be implemented on the MS that takes the statistical mean average of this value based on the number of times the poll has been performed". Appellant asserts that a rule that takes the statistical mean average of collected information provides an example of Appellant's claimed correlating real-time status information with a previously-defined rule. Because an example has been provided within Appellant's Specification of how to perform Appellant's claimed step, the rejection of claim 5 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

C. Independent claims 1, 15, and 30 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

The arguments presented below apply equally to independent claims 1, 15, and 30, and dependent claims 2-14, 16-29, 31-53, and 55-58. Therefore, the arguments presented below apply to independent claims 1, 15, and 30, and dependent claims 2-14, 16-29, 31-53, and 55-58, as a group of claims.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses a polling step or a polling gateway, or the prediction of a future network-wide performance problem based on evaluating performance by identifying network-wide patterns. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses a polling step or a polling gateway, or the prediction of a future network-wide performance problem based on evaluating performance by identifying network-wide patterns is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

In summary, Brockel's system compares current network status with desired parameters and suggests configuration changes to an operator. Appellant's system polls resources of the network for network status, determines network-wide patterns that are likely to indicate network-wide performance problems, compares the network status with the determined network-wide patterns, and based on the comparison, predicts a network-wide performance problem (Appellant's claim 1). Thus, the fundamental differences between Brockel's invention and Appellant's claimed invention are that (1) Brockel is preparing *configuration suggestions* while Appellant claims predicting future network-wide *performance problems*; and (2) Brockel is basing configuration suggestions on a *desired* state of the network, whereas Appellant is basing a network-wide *problem* prediction on previous network-wide patterns, ones that presumably indicate problem conditions.

On pages 4, 8, and 11-12, with respect to independent claims 1, 15, and 30,

(1) The Examiner states that Brockel teaches, in col. 6, lines 45-55, a method of managing a network comprising the steps of polling resources of the network to gather real-time status information about the network (the Examiner states: "1; traffic input"), evaluating performance of the network by identifying network-wide patterns in the gathered real-time status information (the Examiner states "2; a traffic database of a traffic forecast means 2, said traffic forecast means 2 having a plurality of traffic algorithms, in order to store a plurality of traffic data, predicted traffic network data and network performance parameters) (Appellant's claim 1); a system for managing a network, said system comprising at least one polling gateway that is operable to poll one or more network elements to gather real-time status information for said one or more network elements, at least one processor-based management server communicatively coupled to the at least one polling gateway to receive the gathered real-time status information from said at least one polling gateway, (claim 15); a management

system for managing one or more layers of a network, wherein said managing includes predicting network-wide performance problems that are to occur within one or more layers of the network and taking responsive actions in an attempt to prevent or timely respond to the predicted said network-wide performance problems, said management system comprising at least one processor-based management server communicatively coupled to at least one polling gateway that is operable to poll at least one network element to gather real-time status information for said at least one network element (claim 30).

In the cited passage (Brockel, col. 6, lines 34-55), Brockel states that the traffic forecasting step includes entering information into a traffic database, that a traffic forecast means 2 has traffic algorithms that form traffic forecast output 3 that models communications links that meet the communications requirements inputs, arrow 1, and network performance parameters, that propagation forecast 5 and traffic forecast means 2 transmit propagation forecast output, arrow 6, and traffic forecast output, arrow 3, to algorithms to create a dynamic network model that matches expected weather and traffic conditions, and that the model is displayed to an operator. In other words, Brockel states a system in which traffic and propagation data, along with requirements data and performance parameters, are used to predict traffic, and that traffic prediction is fed into an algorithmic process to create a network model. The Examiner states that Brockel teaches "traffic input", and that this teaching anticipates Appellant's claimed polling resources of the network and polling gateway.

On the contrary, with respect to Appellant's claimed step of polling and Appellant's claimed polling gateway, Appellant asserts that Brockel does not disclose or teach polling. Polling is a type of operation that involves a specific overt bidirectional action between the polling device and the device that is polled and includes sampling the status of the polled device as a synchronous activity. Polling is well-known in the art of computer science (see www.wikipedia.com, definition for "polling" in the field of computer science). In Brockel's system the traffic forecast means 2 (Brockel, FIG. 1, (see Evidence Appendix)) apparently receives "communications requirements inputs" through arrow 1 and radio traffic measurements through arrow 11. Traffic forecast means 2 then sends traffic forecast output 3 and an adjusted traffic forecast through arrow 13. These are the interfaces described for traffic forecast means 2, which the Examiner seems to state is the receiver of a polling message

through arrow 1. Appellant asserts that if traffic forecast means 2 were the device being polled through arrow 1, then a bi-directional arrow would at least be shown to indicate that traffic forecast means 2 were participating in polling. Further, Brockel states that dynamic network model 90 (Brockel, FIG. 2 (see Evidence Appendix)) tracks the status of network 100 (Brockel, FIG. 2), and that dynamic network model 90 receives predicated link reliability inputs and grade of service inputs from traffic forecast means 59 (FIG. 2, apparently equivalent to traffic forecast means 1 in Brockel, FIG. 1 (see Evidence Appendix)) (Brockel, col. 18, lines 41-45). Brockel states that traffic forecast means 59 receives traffic meter and throughput data inputs, indicated by arrow 60 (Brockel, FIG. 2) (Brockel, col. 11, lines 30-40). Arrow 1 (Brockel, FIG. 1) seems to be equivalent to arrow 60 (Brockel, FIG. 2). Thus, arrow 1, which the Examiner states anticipates Appellant's claimed polling resources of the network, apparently receives traffic meter and throughput data inputs, but nowhere do either traffic forecast means 2 (59) or arrow 1 (60) provide for the bi-directional information flow required by polling.

In further contrast, with respect to Appellant's claimed resources of the network, Brockel fails to disclose or teach resources of the network. Brockel states that a plurality of traffic data, predicted traffic network data, and a plurality of network performance parameters are stored into the traffic forecasting means (Brockel, col. 4, lines 20-23). These types of data might include a plurality of *call holding times* data inputs for circuit switch calls, *packet lengths*, *data inputs* for packet switch calls, the *number* of a plurality of telephones and computers forming a part of network 100, and a plurality of maximum link, node blocking and delay *probability inputs* (Brockel, col. 17, lines 28-40), but nowhere does Brockel disclose or teach Appellant's claimed resources of the network (Appellant's claim 1) or Appellant's claimed network elements (Appellant's claims 15 and 30) because Brockel's data are not network resources such as, for example, computers, routers, etc., but are instead characteristics of traffic data.

In still further contrast, with respect to Appellant's claimed evaluating performance of the network, Brockel states that network performance parameters are used in the creation of the dynamic network model, and that traffic data are used as input, but Brockel does not disclose or teach

Appellant's claimed step of evaluating the performance of the network. Brockel analyzes the difference between his network model and the actual network in order to update the network *model.*

Thus, because Brockel does not disclose or teach Appellant's claimed step of polling or a polling gateway, because Brockel does not disclose or teach Appellant's claimed resources of the network or network elements, and because Brockel does not disclose or teach Appellant's claimed evaluating performance of the network, the rejection of claims 1, 15, and 30 under 35 U.S.C. § 102 should be withdrawn.

(2) The Examiner states that Brockel teaches, in col. 6, lines 55-68, based on the result of said step of evaluating, providing a prediction of a future network-wide performance problem (the Examiner states "the control portion of the method of the present invention entails managing a communications network 9, during a forecast updating step, a model correction means 10 continuously provides a plurality of real-time meteorological measurements, indicated by arrow 12, to said propagation forecasting means 5, as well a plurality of radio traffic measurements, indicated by arrow 11, from said network 9 to said traffic forecast means 2, resulting in said propagation forecast means 5 and said traffic forecast means 2, respectively, providing an adjusted propagation forecast, indicated by arrow 14, and an adjusted traffic forecast, indicated by arrow 13, to said plurality of planning algorithms of the network planning means 7") (Appellant's claim 1); the at least one processor-based management server predicting the occurrence of a network-wide performance problem within the network based on the gathered real-time status information (Appellant's claim 15); and the at least one processor-based management server including software code executing thereon, wherein said software code learns a condition for predicting said network-wide performance problem within one or more layers of the network from said gathered real-time status information to enable the processor-based management server to predict the occurrence of said network-wide performance problem within the network (Appellant's claim 30).

In the cited passage (Brockel, col. 6, lines 55-68), Brockel states that a model correction means continuously provides real-time meteorological measurements and radio traffic measurements to a propagation forecasting means and the traffic forecast means, respectively, and that the propagation and traffic forecast means provide an adjusted propagation forecast and an adjusted traffic forecast to

planning algorithms. In other words, Brockel's system uses meteorological and radio traffic measurements to adjust propagation and traffic forecasts and transmits them to planning algorithms to form the network model so that the designed network matches expected weather and traffic conditions.

On the contrary, however, Brockel does not disclose or teach Appellant's claimed prediction of a future network-wide performance problem based on evaluating performance by identifying network-wide patterns. Brockel's invention involves the steps of creating forecast data from measurements, providing forecast data to an existing model, reconciling the model, and using the model to generate "reconfiguration instructions" (Brockel, Abstract). Brockel is not using input measurements to perform Appellant's claimed identifying network-wide patterns but instead is using input measurements to create data that are used to reconcile an existing model.

In further contrast, even if Brockel were identifying network-wide patterns, which he is not, Brockel is not providing Appellant's claimed prediction of a future network-wide performance problem, but instead is providing an operator with reconfiguration instructions. Further, the reconfiguration instructions notify the operators to reconfigure the network to counter the natural and enemy-induced spectrum of threats intrinsic to battlefield communications (Brockel, col. 16, line 65 – col. 17, line 1). Protecting a network against battlefield threats does not imply Appellant's claimed prediction of a future network-wide performance problem because Brockel's reconfiguration results from a prediction that involves external influences on the network, whereas Appellant's claim basing the prediction on network-wide patterns in real-time status information of the *network resources*.

Because Brockel does not perform Appellant's claimed identifying network-wide patterns, and because Brockel does not provide Appellant's claimed prediction of a future network-wide performance problem, Brockel does not anticipate Appellant's claims 1, 15, and 30, and the rejection of claims 1, 15, and 30 under 35 U.S.C. § 102 should be withdrawn.

D. Dependent claims 2, 23, and 38 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses the step of determining an action for preventing the future network-wide performance problem from occurring. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that

expresses the step of determining an action for preventing the future network-wide performance problem from occurring is insufficient for the reasons provided in the Appellant's rebuttal remarks below.

On pages 4, 10, and 13, with respect to dependent claims 2, 23, 38, the Examiner states that Brockel teaches, in col. 4, lines 47-56, determining an action for preventing the future network-wide performance problem from occurring (the Examiner states that Brockel states [T]he present invention also provides for an automated communications network planner apparatus for converting meteorological data and traffic data into a dynamic network model meeting a plurality of predetermined performance parameters on a display means, that the apparatus creates a dynamic network model based on propagation and traffic forecasts and then updating and adjusting the network model based on updated real-time propagation and traffic data inputs provided to a network planning means by a means for determining model corrections and a number of algorithms) (Appellant's claim 2); wherein said action is an action for attempting to prevent the network-wide performance problem predicted by the detection of said defined condition from occurring (Appellant's claim 23); and wherein said action is an action for attempting to prevent the network-wide performance problem predicted by the detection of said condition from occurring (Appellant's claim 38).

In the cited passage (Brockel, col. 4, lines 47-56), Brockel states that an automated communications network planner apparatus converts incoming data into a network model that meets certain performance parameters, that the model is based on propagation and traffic forecasts, and is updated and adjusted based on updated real-time propagation and traffic data. In other words, Brockel develops a network model and adjusts it based on reconciling it with incoming data. Brockel's system would thus involve steps such as receiving incoming data, generating a network model according to the incoming data and other data, and updating the model based on further incoming data. A model includes a group of entities along with algorithms that govern their interaction with each other. Thus, when data are fed into a model, algorithms that use that data are executed in order to update further data within the model.

Appellant claims, on the contrary, the steps of polling for incoming data, identifying patterns in the data, predicting future problems from the data, and determining an action to prevent the future problems. Thus, because Brockel's system would thus involve steps such as receiving incoming data,

generating a network model according to the incoming data and other data, and updating the model based on further incoming data, and because Brockel does not disclose or teach Appellant's claimed determining an action to prevent future problems that were predicted based on identifying patterns in incoming polled data, the rejection under 35 U.S.C. § 102 of claims 2, 23, and 38 should be withdrawn.

E. Dependent claims 3, 22, and 37 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses the method of claim 2 wherein said determining step includes determining the action from at least one previously defined rule. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses the method of claim 2 wherein said determining step includes determining the action from at least one previously defined rule is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On pages 4-5, 9, and 13, with respect to dependent claims 3, 22, and 37, the Examiner states that Brockel teaches wherein said determining step includes determining the action from at least one previously defined rule (the Examiner states "70; propagation forecast") (claim 3); wherein at least one rule defines an action for said at least one processor-based management server to respond to a defined condition begin detected (claim 22); and wherein at least one rule defines an action for said at least one processor-based management server to take in response to said condition being detected (claim 37).

With respect to propagation forecasting means 70, Brockel states that "[S]aid propagation forecasting means 70, having a propagation reliability methodology based on short-term, predictive meteorology, provides near-future propagation forecasts" (Brockel, col. 8, lines 11-14). In Brockel, propagation forecasts are forecasts of meteorological phenomena that affect the propagation reliability of communications links that can include atmospheric refraction, layering (ducting), rain, absorption and fog (Brockel, col. 1, lines 33-37). In other words, Brockel states a way to forecast propagation reliability of communication links based on meteorological phenomena.

On the contrary, Brockel's propagation forecast means 70 does not anticipate Appellant's claimed determining an action to prevent a future network-wide problem based on a rule because

Brockel's propagation forecasting means simply predicts whether or not a message will be able to be reliably sent based on the current weather. A prediction-type activity involves plugging current data into prediction algorithms that yield the prediction result. Appellant claims, on the contrary, using a pre-defined rule to determine an action for preventing a future network-wide problem. Brockel's prediction lacks both (1) determining of an action (Brockel's result is simply a reliability prediction), and (2) relating the action to the prevention of a future network-wide problem. For these reasons, Brockel does not anticipate Appellant's claims 3, 22, and 37, and the rejection of these claims under 35 U.S.C. § 102 should be withdrawn.

F. Dependent claims 4, 24, and 39 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses the step of initiating the action before the future network-wide performance problem occurs in an attempt to prevent the future network-wide performance problem. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses the step of initiating the action before the future network-wide performance problem occurs in an attempt to prevent the future network-wide performance problem is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On pages 5, 10, and 14, with respect to dependent claims 4, 24, and 39, the Examiner states that Brockel teaches, in col. 9, lines 1-22, initiating the action before the future network-wide performance problem occurs in an attempt to prevent the future network-wide performance problem (the Examiner states "as closely interpreted by the examiner, Brockel teaches a propagation forecast 70, an equipment availability and characteristics input, indicated by arrow 68, from said network 100 through the model correction means 110, which will be combined with a projected link reliability factor, indicated by arrow 69, for transmission of said propagation forecast output, arrow 71, to a plurality of planning algorithms of said network planning means 75, that said plurality of planning algorithms of the network planning means 75 will calculate the propagation reliability of communications links of said network 100 during said network planning step, which is one of the upcoming steps of the method of this invention") (claim 4); wherein upon detection of said defined condition, said at least one processor-based management server initiates said action before said network-wide performance

one rule that defines statistical analysis of said status information that foreshadows the occurrence of said network-wide performance problem is insufficient for the reasons provided in the Appellant's rebuttal remarks below.

With respect to claims 27 and 42, Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses at least one rule that defines a known correlation of status information that foreshadows the occurrence of said network-wide performance problem. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses at least one rule that defines a known correlation of status information that foreshadows the occurrence of said network-wide performance problem is insufficient for the reasons provided in the Appellant's rebuttal remarks below.

Although the Examiner has not provided a particular citation in Brockel or elsewhere to reject claims 6, 25-27, and 40-42, the Examiner has stated that claims 1-53 and 55-58 are anticipated by Brockel (Final Rejection, page 3, para. 7). Claims 6, 25-27, and 40-42 all claim at least one rule that defines, using status information, either a known pattern, a statistical analysis, or a known correlation, where the known pattern, statistical analysis, or known correlation foreshadows the occurrence of a network-wide performance problem.

Brockel states two types of rules: (1) a first set of rules is used to control and manage the network, for example, by controlling the radio frequency used by the network or by specifying the number of retransmitted messages utilized in the event of a link failure or control the type of forward error correction to be employed (Brockel, col. 13, line 64 – col. 14, line 4); (2) another set of rules is used by a coefficient adjustment means to, for example, provide a probability output to a model correction means that is used to bring the network into alignment with the network model (Brockel, col. 16, lines 17-49).

In rebuttal to the above, nowhere does Brockel state that either type of rules can be combined with status information to foreshadow the occurrence of a network-wide performance problem. The rules of Brockel either configure protocols or modify the network model, whereas Appellant's claim foreshadowing the occurrence of a network-wide performance problem. A network-wide performance problem could occur, for example, if a network element is about to reach capacity or is exhibiting signs of impending failure. Brockel does not disclose or teach rules that define a known pattern of status

problem occurring (claim 24); and wherein upon detection of said defamed (sic) condition said at least one processor-based management server initiates said action before said network-wide performance problem occurs (claim 39).

In the cited passage (Brockel, col. 9, lines 1-22), Brockel states that a propagation forecasting means uses information from a propagation database, known propagation characteristics, traffic-related input, and a projected link reliability factor as input to planning algorithms that calculate propagation reliability of communications links.

In rebuttal to the above, as the Examiner states, Brockel calculates reliability of communication links. Reliability is simply a statistic, and does not lead to performance of Appellant's claimed step of initiating an action before the future network-wide performance problem occurs in an attempt to prevent the problem. Brockel's system neither determines that a network-wide performance problem could occur, nor determines an action to initiate that would prevent the network-wide performance problem. Instead, Brockel states calculating a reliability statistic. Brockel gives no indication in the cited passage that the reliability statistic is used to initiate an action, or to attempt to prevent a future network problem. Thus, the cited passage in Brockel cannot anticipate Appellant's claimed invention. For this reason, the rejection of claims 4, 24, and 39 under 35 U.S.C. § 102 should be withdrawn.

G. Dependent claims 6, 25-27, and 40-42 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

With respect to claims 6, 25, and 40, Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses at least one previously-defined rule defines a known pattern for the gathered real-time status information that foreshadows the occurrence of the future network-wide performance problem. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses at least one previously-defined rule defines a known pattern for the gathered real-time status information that foreshadows the occurrence of the future network-wide performance problem is insufficient for the reasons provided in the Appellant's rebuttal remarks below.

With respect to claims 26 and 40, Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses at least one rule that defines statistical analysis of said status information that foreshadows the occurrence of said network-wide performance problem. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses at least

information, or that define statistical analysis of the status information, or that define a known correlation of status information, that could take the form of specifying certain status values from particular network elements that, taken together, foreshadow an impending performance problem. Thus it is clear that Brockel's rules are not related to foreshadowing the occurrence of a network-wide performance problem. For these reasons, the rejection of claims 6, 25-27, and 40-42 under 35 U.S.C. § 102 should be withdrawn.

H. Dependent claims 7, 28, and 43 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses wherein the future network-wide performance problem is caused by anyone or more of the problems selected from: operability problem of the resources of the network, operability problem of the network, failure of the resources of the network, failure of the network, integrity problem of the resources of the network, integrity problem of the network, efficiency problem of the resources of the network, efficiency problem of the network, decreased processing speed of the resources of the network, decreased processing speed of the network, usage capacity problem of the resources of the network, and usage capacity problem of the network. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses wherein the future network-wide performance problem is caused by anyone or more of the problems selected from: operability problem of the resources of the network, operability problem of the network, failure of the resources of the network, failure of the network, integrity problem of the resources of the network, integrity problem of the network, efficiency problem of the resources of the network, efficiency problem of the network, decreased processing speed of the resources of the network, decreased processing speed of the network, usage capacity problem of the resources of the network, and usage capacity problem of the network is insufficient for the reasons provided in the Appellant's rebuttal remarks below.

On pages 6, 11, and 14-15, with respect to dependent claims 7, 28, and 43, the Examiner states that Brockel teaches, in col. 16, lines 17-35, wherein the future network-wide performance problem is caused by anyone or more of the problems selected from: operability problem of the resources of the network, operability problem of the network, failure of the resources of the network, failure of the network, integrity problem of the resources of the network, integrity problem of the network,

efficiency problem of the resources of the network, efficiency problem of the network, decreased processing speed of the resources of the network, decreased processing speed of the network, usage capacity problem of the resources of the network, and usage capacity problem of the network.

In the cited passage (Brockel, col. 16, lines 17-35), Brockel states system requirements necessary to support diagnosis of *current* problems as illustrated by Brockel's system requirements of receiving of alarms, troubleshooting problems, selecting tests, and interpreting test results to establish a diagnosis.

Appellant, on the contrary, claims various causes for *future* network-wide performance problems, for example, possible detection of a network resource such as a CPU reaching processing capacity (an example of Appellant's claimed operability problem of the resources of the network as a cause of a future network-wide performance problem). Because Brockel does not anticipate Appellant's claimed future network-wide performance problem being caused by any one or more of a list of possibilities, the rejection under 35 U.S.C. § 102 of claims 7, 28, and 43 should be withdrawn.

I. Dependent claims 8, 29, and 44 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses the method of claim 1 wherein said step of polling resources includes gathering the real-time status information for anyone or more of: network status, disk status, database status, memory status, CPU status, and operating system status. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses the method of claim 1 wherein said step of polling resources includes gathering the real-time status information for anyone or more of: network status, disk status, database status, memory status, CPU status, and operating system status is insufficient for the reasons provided in the Appellant's rebuttal remarks below.

On pages 6, 11, and 15, with respect to dependent claims 8, 29, and 44, the Examiner states that Brockel teaches, by reference numbers 55 and 56, wherein said step of polling resources includes gathering the real-time status information for anyone or more of network status, disk status, database status, memory status, CPU status, and operating system status.

With respect to the cited reference numbers (55 and 56), Brockel states a traffic database 55 and a predicted traffic database 56. Brockel further states that the traffic database 55 includes various inputs, parameters, and criteria, and that traffic is forecast using current data and algorithms, among other variable.

As a rebuttal to the above, nowhere does Brockel state that the data in traffic database 55 or predicted traffic database 56 are gathered by polling because there is no mention of polling throughout Brockel's specification, and neither database includes Appellant's claimed status information derived from network status, disk status, database status, memory status, CPU status, and operating system status. The traffic and predicted databases of Brockel contain input communications requests, predetermined network performance parameters, operational facility data inputs, and performance criteria. Even a broad reading of Brockel's database contents does not include Appellant's claimed status information of resources in a computer network. Because there is no disclosure or teaching of polling in Brockel, and because the cited databases do not anticipate Appellant's claimed status information, the rejection of claims 8, 29, 44 under 35 U.S.C. § 102 should be withdrawn.

J. Dependent claim 10 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses the method of claim 3 wherein the at least one previously defined rule includes at least one user defined rule. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses the method of claim 3 wherein the at least one previously defined rule includes at least one user defined rule is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On page 7, with respect to dependent claim 10, the Examiner states that in is inherent in Brockel that the rules or planning steps are being defined by users.

Appellant respectfully points out that the general rule of inherency may be relied upon only where the consequences of following the reference disclosure always inherently produces or results in the claimed invention. *W.L. Gore Associates, Inc. v. Garlock Inc.*, 220 U.S.P.Q. 303, 314. If there is not a reasonable certainty that the claimed subject matter will necessarily result, the rejections fails. *In re Brink*, 164 USPQ 247. Also, accidental results, not intended and not anticipated, do not constitute

an anticipation. *Georgia-Pacific Corp. v. United States Plywood Corp.*, 118 USPQ 122, 128. MPEP § 2112 (page 2100-53, May 2004) states that to establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 U.S.P.Q.2d 1746, 1749 (Fed. Cir. 1991). "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." *Ex parte Levy*, 17 USPQ2d 1461, 1464 (Bd. Pat. App. & Inter. 1990).

Appellant asserts that there is not, in fact, a reasonable certainty that Appellant's claimed user defined rule will necessarily result from the system of Brockel because Brockel's rules, based on the system requirements as outlined in Brockel's col. 16, lines 17-56, are presented by example to be automatically derived (see Brockel, col. 16, lines 40-49). Further, the Examiner has not provided a basis in fact and/or technical reasoning to reasonably support the determination that Appellant's claimed user defined rule necessarily flows from the teachings of Brockel because there is no reason why a user should be necessary to create the rules of Brockel. For these reasons, claim 10 is not anticipated by inherency, and the rejection of claim 10 under 35 U.S.C. § 102 should be withdrawn.

K. Dependent claims 12 and 17 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses at least one previously defined rule correlating disparate network elements. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses at least one previously defined rule correlating disparate network elements rule is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On page 7, with respect to claim 12, the Examiner states that Brockel discloses the method of claim 3 further comprising that at least one previously defined rule correlating disparate network elements (Brockel, col. 10, lines 15-25). The Examiner does not provide a citation with which to reject claim 17, but because of its structural similarity to other claims, which the Examiner has rejected as follows: "claim xx is similarly rejection as in claims 1-14", and claim 12, Appellant herein argues claim 17 with claim 12.

In the cited passage (Brockel, col. 10, lines 15-25), Brockel states that network planning means 75 automatically examines pieces of network 100 on a one-by-one basis, that portions of the network are assigned to a network manager or amassed into a super node, and that both the operator and the network planning means engineer a network plan output.

As a rebuttal to the above, Brockel examines pieces of the network on a one-by-one basis, but does not teach or disclose any sort of correlation of the pieces, if "pieces" of the network are interpreted to mean network elements, as Appellant has claimed. A correlation could require, for example, establishing a relationship between the pieces, which is nowhere disclosed or taught in the cited passage in Brockel. For this reason, the rejection of claims 12 and 17 under 35 U.S.C. § 102 should be withdrawn.

L. Dependent claims 20 and 35 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses that disparate network elements include network elements that communicate in different network protocols. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses that disparate network elements include network elements that communicate in different network protocols is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On pages 9 and 13, with respect to dependent claims 20 and 35, the Examiner states that Brockel teaches wherein said disparate network elements include network elements that communicate in different network protocols (the Examiner states that claims 20 and 35 are similarly rejected as in claims 1-14).

As a rebuttal to the above, Appellant respectfully points out that there is no similar claim to claims 20 and 35 within claims 1-14. Further, Appellant respectfully points out that Brockel does not disclose or teach Appellant's claimed network elements that communicate in different network protocols. In Brockel, protocols are sets of rules used to control and manage the network such as, for example, controlling the radio frequency used by the network (Brockel, col. 13, line 64 – col. 14, line 1), whereas Appellant claims network elements that communicate in different network protocols, an example of which is given in claim 21 – TCP/IP -- making it clear that Appellant is using the term

"network protocol" in the communication protocol sense, not in the way that Brockel is using it, i.e. a protocol generally as a set of rules. Because Brockel does not disclose or teach the subject matter of Appellant's claims 20 and 35, Brockel does not anticipate claims 20 and 35, and the rejection under 35 U.S.C. § 102 should be withdrawn.

M. Dependent claims 21 and 36 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses the system of claim 20 wherein said disparate network elements include network elements selected from: SNMP network elements, CMIP network elements, and network elements using TCP/IP protocol. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses the system of claim 20 wherein said disparate network elements include network elements selected from: SNMP network elements, CMIP network elements, and network elements using TCP/IP protocol is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On pages 9 and 13, with respect to dependent claims 21 and 36, the Examiner states that Brockel teaches, in reference numbers 90 and 100, wherein said disparate network elements include network elements selected from SNMP network elements, CMIP network elements, and network elements using TCP/IP protocol.

With respect to reference numbers 90 and 100, Brockel states that dynamic network model 90, which is computer-resident, contains environmental, traffic, or configuration changes relating to network 100. Elsewhere, Brockel states protocols that control the radio frequency used by network 100, protocols that would specify the number of retransmitted messages utilized in the event of a link failure or control the type of forward error correction to be employed, in network *model* 90 (Brockel, col. 13 line 67 – col. 14, line 4).

In rebuttal to the above, nowhere does Brockel state or suggest Appellant's claimed SNMP network elements, CMIP network elements, and TCP/IP protocols. Brockel's protocols are unrelated to management protocols SNMP and CMIP because Brockel does not state or suggest any sort of compliance to or need for those protocols. SNMP and CMIP define protocols for communications between network management applications. CMIP defines management information and CMIP

operations (such as create, delete, get, cancel_get, set, and action) in terms of managed objects, neither of which are disclosed or taught by Brockel. CMIP and SNMP were defined and well-known to those skilled in the art prior to Brockel's invention, and thus Brockel's omission of any evidence of compliance with either CMIP or SNMP indicates that Brockel's system was not amenable to their use. Thus, Brockel cannot anticipate Appellant's claimed SNMP and CMIP network elements. Further, Brockel does not disclose or teach the use of TCP/IP, which was in common use and well-known in the art before Brockel's invention. Brockel states protocols that specify the number of retransmitted messages or control the type of forward error correction in a network model. TCP/IP is a communications protocol that specifies packet header formatting to enable communications between two nodes in a network. Brockel's forward error correction is used when TCP/IP is unsuitable. Thus Brockel teaches away from the use of Appellant's claimed TCP/IP. For these reasons, Brockel does not anticipate Appellant's claims 21 and 36, and the rejection of claims 21 and 36 under 35 U.S.C. 102 should be withdrawn.

N. Dependent claim 45 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses the management system of claim 30 wherein said at least one network element is represented as an object within object-oriented software executing on the processor-based server, said object having one or more attributes for which said status information may be gathered. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses the management system of claim 30 wherein said at least one network element is represented as an object within object-oriented software executing on the processor-based server, said object having one or more attributes for which said status information may be gathered is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On page 15, with respect to dependent claim 45, the Examiner states that Brockel teaches, in col. 17, lines 5-26, wherein said at least one network element is represented as an object within object-oriented software executing on the processor-based server, said object having one or more attributes for which said status information may be gathered.

In the cited passage (Brockel, col. 17, lines 5-26), Brockel states that method of the present invention may be carried out on terrestrial line-of-sight communications networks, as well as communications networks receiving data from a means for inputting data from a plurality of satellites, that in operation a network management work station may host an applications software program, to access said meteorological forecast data input and real-time meteorological information variables, that propagation forecasting means 70 may also send said traffic forecast output and an adjusted traffic forecast output to network planning means 75 which along with said equipment availability and characteristics input, from said network 100 through said model correction means 110, may be combined with a projected link reliability factor as part of said propagation forecast output provided to network planning means 75 to complete the propagation forecasting step, and that the propagation forecasting means 70 may also be a computer program. In other words, Brockel's system may be carried out electronically, and at least parts of it may be a computer program.

In rebuttal to the above, Brockel does not disclose or teach Appellant's claimed representing a network element as an object within object-oriented software. Appellant asserts that object-oriented software is specifically constructed. A general-purpose computer program, such as Brockel has stated, does not anticipate object-orientation because there are no constructs such as classes, objects, and attributes disclosed or taught by Brockel. Given that there are many ways in which computer programs can be constructed, Brockel's simple statement of a computer program cannot anticipate Appellant's claimed structure including a network element that is represented by an object within object-oriented software, because there is no support in Brockel for this structure. For this reason, Brockel does not anticipate Appellant's claim 45, and the rejection under 35 U.S.C. § 102 should be withdrawn.

O. Dependent claim 46 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses that said condition includes correlation of one or more attributes of one or more objects to define the prediction of said network-wide performance problem. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses that said condition includes correlation of one or more

attributes of one or more objects to define the prediction of said network-wide performance problem is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On page 15, with respect to dependent claim 46, the Examiner states that Brockel teaches, in Brockel's FIGs. 1 and 2 (see Evidence Appendix), correlating one or more attributes of one or more objects to define the prediction of said network-wide performance problem (the Examiner states that reference numbers 60 and 59, as well as the flow chart of Brockel's FIGs. 1 and 2 of the correlating the real-time status information having forecast/predefined rule).

With respect to Brockel's FIGs. 1 and 2, Brockel states that traffic meter and throughput data inputs are accessed by the network during operations, and that traffic meter and throughput data inputs also establish adjusted traffic needline data during a database updating step. Brockel also states that a traffic forecasting means generates traffic forecast output utilizing a traffic database and a predicted database.

In rebuttal to the above, Brockel does not disclose or teach Appellant's claimed correlating one or more attributes of one or more objects to define the prediction of said network-wide performance problem because (1) Brockel does not define attributes associated with objects, (2) Brockel does not correlate attributes, and (3) Brockel does not define the prediction of a network-wide performance problem. With respect to points (1) and (2), Brockel does not teach or disclose an object-oriented system as argued above, and therefore, the elements of Brockel's system such as Brockel's traffic database and Brockel's traffic forecast algorithms, are not represented as objects with attributes. With respect to point (3), Brockel states a traffic forecasting means that generates traffic forecast output, but does not state or suggest Appellant's claimed prediction of a network-wide performance problem because Brockel's traffic forecast is simply the *number of messages* expected to traverse the network, while Appellant's claimed network-wide performance problem pinpoints a predicted *problem* in the network. For these reasons, Brockel cannot anticipate Appellant's claimed correlating one or more attributes and the rejection of claim 46 under 35 U.S.C. § 102 should be withdrawn.

P. Dependent claims 47, 50, 53, 55, 57, and 58 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses that said management system includes a business management layer, a service management layer, a

network management layer, or an element management layer. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses that said management system includes a business management layer, a service management layer, a network management layer, or an element management layer is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On pages 15-17, with respect to dependent claims 47, 50, 52, 53, 55, and 57, the Examiner states that Brockel's FIG. 1 (see Evidence Appendix) anticipates Appellant's claimed business manager layer (Appellant's claim 47), that Brockel's Abstract anticipates Appellant's claimed service management layer (Appellant's claim 50), and that Brockel teaches, in col. 2, lines 1-37, wherein said management system includes a network management layer (Appellant's claim 53); wherein said management system includes an element management layer (Appellant's claim 55); wherein said management system includes a plurality of at least the following layers: business management layer, service management layer, network management layer, and element management layer, and wherein a plurality of said layers are correlated within said at least one rule (Appellant's claim 57); and wherein said management system includes a plurality of at least the following layers: business management layer, service management layer, network management layer, and element management layer, and wherein said network-wide performance problem is a problem within any of said plurality of layers (Appellant's claim 58).

Brockel's FIG. 1 (see Evidence Appendix) depicts a method for planning and managing a host communications network. Brockel states that the host communications network can be used to establish a network model, that the Brockel's system includes planning and control portions, that the control portion receives and processes input data, and provides traffic and propagation forecasts to that are ultimately used to update the network model, and that the results of the method of Brockel's FIG. 1 are an updated model and a set of reconfiguration instructions that are sent to an operator.

In the cited passages (Brockel, Abstract and col. 2, lines 1-37), Brockel states a method for making recommendations to an operator to reconfigure a network based on a network model. Brockel is mainly concerned with calculating the propagation effects from predicted short-term weather conditions and communications traffic patterns and then making recommendations for adjusting the network plan or components of a communications system to overcome the weather conditions and

communications-traffic patterns on the communications quality of dynamic networks designed by a battlefield commander based on the weather at the time and site of a military operation.

As a rebuttal to the above, Appellant claims a business management layer that is described as corresponding to the business aspects of the network service provider (Appellant's Specification, page 16, lines 17). Appellant's claimed business management layer is a layer of the Telecommunications Management Network (TMN) architecture that is introduced on page 14, lines 14-16, in Appellant's Specification, and depicted in Appellant's FIG. 4 (see Evidence Appendix) of Appellant's Specification. Brockel does not teach or disclose in Brockel's FIG. 1 (see Evidence Appendix) or elsewhere any type of layers, network layers or otherwise, including a business management layer. Brockel does not describe a management system that includes layers communicating with each other as is commonly known in the art. A layer as is commonly known in the art communicates with the layers above and below it in the layer stack, but not other layers. Brockel's system, on the contrary, is organized according to traffic and propagation forecast means, a network planning means, a dynamic network model, a network, and a model correction means, none of which are structured or described as layers. Not only does Brockel's system not conform to a layered approach, but Brockel's system does not include anywhere a business management layer or its equivalent. Such a layer would be expected to, for example, conform to the TMN architecture, or provide business-like processing for the system.

The Examiner seems to be interpreting the term "business management layer" to include at least one of Brockel's elements depicted in Brockel's FIG. 1 (see Evidence Appendix). In *Phillips v. AWH Corp., No. 03-1269, -1286 slip op. at 9 (Fed. Cir. July, 2005),* the court stated that the words of a claim "are generally given their ordinary and customary meaning", and that the ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art at the time of the invention who reads the claim term in the context of the entire patent, including the specification, and not only in the context of the applicable claim (*Phillips,* slip op. at 10). The court in *Phillips* further stated that even though the ordinary and customary meaning of the term may not be readily apparent, a number of sources are available to shed light upon the issue, including "the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence concerning scientific principles, the meaning of technical terms, and the state of the art (*Phillips,* slip op. at 11).

Thus, the meaning of the term "business management layer" should be ascertained from the Appellant's Specification, according to *Phillips*, and the Appellant's Specification clearly states that the layer is concerned with the business aspects of the network, and that the layer can conform to the TMN architecture, for example. Brockel, on the contrary, does not disclose or teach business or network layers, and thus, the rejection under 35 U.S.C. § 102 of claim 47 should be withdrawn.

With respect to dependent claim 53, Appellant claims a management system that includes a network management layer. Brockel states that a communications network is planned based on external needs such as performance parameters and weather, and acknowledges that the communications network needs to be managed, but Brockel does not give details about how the management is accomplished, in particular, Brockel does not disclose or teach Appellant's claimed management system that includes a network management layer. Layered systems imply communication among the layers and protocols for such communications. Brockel does not teach or disclose either the layered structure or the network management layer itself to support Appellant's claim 53. For this reason, Brockel cannot anticipate Appellant's claim 53, and the rejection of claim 53 under 35 U.S.C. § 102 should be withdrawn.

With respect to dependent claims 55, 57, and 58, Appellant respectfully refers to the argument for claim 53 that applies to claims 55, 57, and 58 as well. For the reason stated with respect to claim 53, Brockel cannot anticipate Appellant's claims 55, 57, and 58, and the rejection of claims 55, 57, and 58 under 35 U.S.C. § 102 should be withdrawn.

Q. Dependent claims 48, 51, 52, and 56 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses that the network-wide performance problem includes a business performance problem, a service performance problem, or a network element performance problem. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses that the network-wide performance problem includes a business performance problem, a service performance problem, or a network element performance problem is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below.

On pages 16 and 17, with respect to dependent claims 48, 51, 52, and 56, the Examiner states that Brockel teaches wherein said network-wide performance problem includes a business performance problem (Appellant's claim 48); wherein said network-wide performance problem includes a service performance problem (Appellant's claim 51); and wherein said network-wide performance problem includes a network element performance problem (Appellant's claim 56) (the Examiner states that "real-time weather" and "model correction" anticipate Appellant's claims 48, 51, and 56). The Examiner states that Brockel teaches, in col. 2, lines 1-37, wherein said service performance problem includes problem with the quality provided to subscribers or clients of the managed network (Appellant's claim 52; Appellant notes that the citation is "col. 2, lines 1-)"; Appellant assumes that the Examiner is referring to the whole of col. 2 and argues the rejection based on this citation).

With respect to the cited phrases, Brockel states that "real-time weather" is a network input generated by the "model correction" means (Brockel, col. 5, lines 17-23, and col. 15, lines 2-4).

In rebuttal to the above, Brockel's real-time weather is a parameter or combination of parameters that represents the state of the weather and is none of Appellant's claimed business, service, or network element performance problems. Brockel states that the model correction means continuously provides a plurality of meteorological measurements to the propagation forecast means, and produces forecasted output for the model and correction instructions for network operators. Brockel's real-time weather and model correction means do not anticipate Appellant's claimed business, service, and network element performance problems because neither provides for any of Appellant's claimed network-wide problems. Not even a broad reading of Brockel's producing forecasted output or model correction instructions can anticipate Appellant's claimed business, service, and network element performance problems because Brockel's forecasts are not related to business, service, or network element performance problems but instead are model corrections and signal propagation forecasts.

With respect to dependent claim 52, whereas Brockel discusses the effects of weather on propagation, Brockel does not disclose or teach network-wide performance problems that are to occur that include quality service to subscribers. Brockel states that network planning is based on anticipated weather, propagation patterns, and network traffic, but does not disclose or teach Appellant's claimed

network-wide performance problem that is to occur. It is clearly different to take into account the affect of weather, etc., in a model, than to determine a specific network-wide performance problem that is going to occur, for example Appellant's claimed quality of service to subscribers. Thus Brockel does not anticipate Appellant's claim 52, and the rejection of claim 52 under 35 U.S.C. § 102 should be withdrawn.

For these reasons, Brockel cannot anticipate Appellant's claims 48, 51, and 56, and the rejection of claims 48, 51, 52, and 56 under 35 U.S.C. § 102 should be withdrawn.

R. Dependent claim 49 is rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant respectfully contends that there is no teaching or disclosure in Brockel that expresses that at least one network element includes an electronic commerce system for processing commercial transactions with customers via the Internet, and wherein said business performance problem includes a problem resulting in inability of said electronic commerce system processing said commercial transaction. Furthermore, the Examiner's attempt to show that there is a teaching in Brockel that expresses that at least one network element includes an electronic commerce system for processing commercial transactions with customers via the Internet, and wherein said business performance problem includes a problem resulting in inability of said electronic commerce system processing said commercial transaction is insufficient for the reasons provided in the Appellant's rebuttal remarks presented below

On page 16, with respect to dependent claim 49, the Examiner states that Brockel teaches, in the Abstract, wherein said at least one network element includes an electronic commerce system for processing commercial transactions with customers via the Internet, and wherein said business performance problem includes a problem resulting in inability of said electronic commerce system processing said commercial transactions.

In the cited passage (Brockel, Abstract), Brockel states a method comprising a propagation forecasting from weather inputs, traffic forecasting from traffic data inputs, network planning by displaying a network model, automatically adjusting propagation and traffic forecasts, and adjusting the network through reconfiguration instructions to network operators, and converting meteorological

data and traffic data into a network model. In other words, Brockel states a model which is created from inputs including traffic and weather inputs, that is updated when new data arrive, that can be used to generate network reconfiguration instructions, and that can be displayed on a terminal.

In rebuttal to the above, Brockel does not disclose or teach Appellant's claimed network element that includes an electronic commerce system for processing commercial transactions with customers via the Internet, and therefore, Brockel does not disclose or teach Appellant's claimed inability of the electronic commerce system to process commercial transactions. Brockel states that a display of the network model on a network terminal is possible, but nowhere does Brockel disclose or teach electronic commerce, which could include some sort of browser that would interface with a service provider. Brockel discusses electronic warfare, but electronic warfare and electronic commerce would have completely different requirements. For example, electronic warfare would be useful for tracking enemy threats, whereas electronic commerce would be useful for allowing purchases of goods and services over the Internet. Because Brockel does not disclose or teach Appellant's claimed electronic commerce system, processing of commercial transactions, the Internet, or a problem resulting in the inability of the electronic commerce system to process the commercial transactions, then Brockel cannot anticipate Appellant's claim 49, and the rejection under 35 U.S.C. § 102 should be withdrawn.

S. Dependent claims 5, 9, 11, 13, 14, 16, 18, 19, and 31-34 are rejected under 35 U.S.C. § 102(e) as being anticipated by Brockel.

Appellant asserts that dependent claims 5, 9, 11, 13, 14, 16, 18, 19, and 31-34 are patentable at least by virtue of their dependence upon allowable independent claims 1, 15, and 30.

VIII. CONCLUSION

It is quite clear from the arguments presented above that (1) claim 4 meets the statutory requirements of 35 U.S.C. § 112, first paragraph, (2) claim 5 is not vague and indefinite and thus the rejection of claim 5 under 35 U.S.C. § 112, second paragraph, should be withdrawn, and claims 1-53 and 55-58 are not anticipated by Brockel, therefore completely negating the 35 U.S.C. §102 rejections applied thereto. It is further noted that Brockel contains no teaching or disclosure that would permit a rejection against claims 1-53 and 55-58 under 35 U.S.C. § 103.

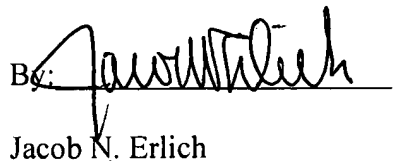
In view of the law and facts stated herein, Appellant respectfully submits (1) that the rejections of claims 4 and 5 under 35 U.S.C. § 112 should be withdrawn, and (2) that Brockel is insufficient to anticipate claims 1-53 and 55-58. Appellant further respectfully submits that a rejection under 35 U.S.C. § 103 would also fail, even though such a rejection has not been applied. Appellant respectfully urges that the rejection of claims 1-53 and 55-58 under 35 U.S.C. § 102(e) is improper. Reversal of the rejections in this appeal is respectfully requested.

In accordance with M.P.E.P. § 714.01, the following information is presented in the event that a call may be deemed desirable by the Examiner:

JACOB N. ERLICH (617) 345-3000

Dated: July 5, 2006

Respectfully submitted
on behalf of Appellant,
Thomas C. Harrop

By: 

Jacob N. Erlich
Reg. No. 24,338
Attorney for Appellant

IX. CLAIMS APPENDIX

Listing of claims

Claim 1: (PREVIOUSLY PRESENTED) A method of managing a network comprising the steps of:

polling resources of the network to gather real-time status information about the network;

evaluating performance of the network by identifying network-wide patterns in the gathered real-time status information; and

based on the result of said step of evaluating, providing a prediction of a future network-wide performance problem.

Claim 2: (PREVIOUSLY PRESENTED) The method of claim 1 further comprising the step of:

determining an action for preventing the future network-wide performance problem from occurring.

Claim 3: (PREVIOUSLY PRESENTED) The method of claim 2 wherein said determining step includes determining the action from at least one previously defined rule.

Claim 4: (PREVIOUSLY PRESENTED) The method of claim 2 further comprising the step of:

initiating the action before the future network-wide performance problem occurring in an attempt to prevent the future network-wide performance problem.

Claim 5: (PREVIOUSLY PRESENTED) The method of claim 1 wherein said step of evaluating performance of the network further includes:

correlating the real-time status information with at least one previously defined rule.

Claim 6: (PREVIOUSLY PRESENTED) The method of claim 5 wherein the at least one previously-defined rule defines a known pattern for the gathered real-time status information that foreshadows the occurrence of the future network-wide performance problem.

Claim 7: (PREVIOUSLY PRESENTED) The method of claim 1 wherein the future network-wide performance problem is caused by anyone or more of the problems selected from:

operability problem of the resources of the network, operability problem of the network, failure of the resources of the network, failure of the network, integrity problem of the resources of the network, integrity problem of the network, efficiency problem of the resources of the network, efficiency problem of the network, decreased processing speed of the resources of the network, decreased processing speed of the network, usage capacity problem of the resources of the network, and usage capacity problem of the network.

Claim 8: (PREVIOUSLY PRESENTED) The method of claim 1 wherein said step of polling resources includes gathering the real-time status information for anyone or more of:

network status, disk status, database status, memory status, CPU status, and operating system status.

Claim 9: (PREVIOUSLY PRESENTED) The method of claim 1 wherein said step of polling resources includes gathering the real-time status information by a plurality of distributed gateways that are communicatively coupled to a central management system.

Claim 10: (PREVIOUSLY PRESENTED) The method of claim 3 wherein the at least one previously defined rule includes at least one user defined rule.

Claim 11: (PREVIOUSLY PRESENTED) The method of claim 3 wherein the at least one previously defined rule is implemented as software code executing on a management system.

Claim 12: (PREVIOUSLY PRESENTED) The method of claim 3 further comprising:

the at least one previously defined rule correlating disparate network elements.

Claim 13: (PREVIOUSLY PRESENTED) The method of claim 3 further comprising:

the at least one previously defined rule correlating disparate characteristics of the resources of the network.

Claim 14: (PREVIOUSLY PRESENTED) The method of claim 13 wherein said disparate characteristics include those selected from:

CPU run queue capacity, CPU run queue blocks, CPU run queue waits, context switching, memory paging, swap allocation, disk writes, disk blocking, disk waiting, disk utilization, network inbound packets, network outbound packets, network errors, and network collisions.

Claim 15: (PREVIOUSLY PRESENTED) A system for managing a network, said system comprising:

at least one polling gateway that is operable to poll one or more network elements to gather real-time status information for said one or more network elements;

at least one processor-based management server communicatively coupled to the at least one polling gateway to receive the gathered real-time status information from said at least one polling gateway; and

the at least one processor-based management server predicting the occurrence of a network-wide performance problem within the network based on the gathered real-time status information.

Claim 16: (ORIGINAL) The system of claim 15 wherein said one or more network elements include a plurality of network elements distributed in the network.

Claim 17: (ORIGINAL) The system of claim 15 wherein said one or more network elements include a plurality of disparate network elements.

Claim 18: (ORIGINAL) The system of claim 15 wherein said at least one polling gateway includes a plurality of distributed polling gateways.

Claim 19: (ORIGINAL) The system of claim 15 wherein said plurality of distributed polling gateways include polling gateways that are each operable to poll particular ones of disparate network elements.

Claim 20: (PREVIOUSLY PRESENTED) The system of claim 19 wherein said disparate network elements include network elements that communicate in different network protocols.

Claim 21: (PREVIOUSLY PRESENTED) The system of claim 20 wherein said disparate network elements include network elements selected from: SNMP network elements, CMIP network elements, and network elements using TCP/IP protocol.

Claim 22: (PREVIOUSLY PRESENTED) The system of claim 15 wherein at least one rule defines an appropriate action for said at least one processor-based management server to respond to a defined condition being detected.

Claim 23: (PREVIOUSLY PRESENTED) The system of claim 22 wherein said appropriate action is an action for attempting to prevent the network-wide performance problem predicted by the detection of said defined condition from occurring.

Claim 24: (PREVIOUSLY PRESENTED) The system of claim 22 wherein upon detection of said defined condition, said at least one processor-based management server initiates said appropriate action before said network-wide performance problem occurring.

Claim 25: (PREVIOUSLY PRESENTED) The system of claim 15 wherein at least one rule defines a known pattern for status information that foreshadows the occurrence of said network-wide performance problem.

Claim 26: (PREVIOUSLY PRESENTED) The system of claim 15 wherein at least one rule defines statistical analysis of said status information that foreshadows the occurrence of said network-wide performance problem.

Claim 27: (PREVIOUSLY PRESENTED) The system of claim 15 wherein at least one rule defines a known correlation of status information that foreshadows the occurrence of said network-wide performance problem.

Claim 28: (PREVIOUSLY PRESENTED) The system of claim 15 wherein said network-wide performance problem is caused by anyone or more of the problems selected from:

operability problem of said one or more network elements, operability problem of the network, failure of said one or more network elements, failure of the network, integrity problem of said one or more network elements, integrity problem of the network, efficiency problem of said one or more network elements, efficiency problem of the network, decreased processing speed of said one or more network elements, decreased processing speed of the network, usage capacity problem of said one or more network elements, and usage capacity problem of the network.

Claim 29: (PREVIOUSLY PRESENTED) The system of claim 15 wherein said status information includes one or more from:

network status, disk status, database status, memory status, CPU status, and operating system status.

Claim 30: (PREVIOUSLY PRESENTED) A management system for managing one or more layers of a network, wherein said managing includes predicting network-wide performance problems that are to occur within one or more layers of the network and taking responsive actions in an attempt to prevent or timely respond to the predicted said network-wide performance problems, said management system comprising:

at least one processor-based management server communicatively coupled to at least one polling gateway that is operable to poll at least one network element to gather real-time status information for said at least one network element;

the at least one processor-based management server including software code executing thereon, wherein said software code learns a condition for predicting said network-wide performance problem within one or more layers of the network from said gathered real-time status information to enable the processor-based management server to predict the occurrence of said network-wide performance problem within the network.

Claim 31: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said at least one network element include a plurality of said at least one network element distributed in the network.

Claim 32: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said at least one network element include a plurality of disparate said at least one network element.

Claim 33: (ORIGINAL) The management system of claim 30 wherein said at least one polling gateway includes a plurality of distributed polling gateways.

Claim 34: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said plurality of distributed polling gateways include polling gateways that are each operable to poll particular ones of disparate said at least one network element.

Claim 35: (PREVIOUSLY PRESENTED) The management system of claim 34 wherein the disparate said at least one network element include said at least one network element that communicate in different network protocols.

Claim 36: (PREVIOUSLY PRESENTED) The management system of claim 35 wherein the disparate said at least one network element include said at least one network element selected from: SNMP network elements, CMIP network elements, and network elements using TPC/IP protocol.

Claim 37: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein at least one rule defines an action for said at least one processor-based management server to take in response to said condition being detected.

Claim 38: (PREVIOUSLY PRESENTED) The management system of claim 37 wherein said action is an action for attempting to prevent the network-wide performance problem predicted by the detection of said condition from occurring.

Claim 39: (PREVIOUSLY PRESENTED) The management system of claim 37 wherein upon detection of said condition said at least one processor-based management server initiates said action before said network-wide performance problem occurs.

Claim 40: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said condition includes a pattern for status information that foreshadows the occurrence of said network-wide performance problem.

Claim 41: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said condition includes statistical analysis of said status information that foreshadows the occurrence of said network-wide performance problem.

Claim 42: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said condition includes correlation of status information that foreshadows the occurrence of said network-wide performance problem.

Claim 43: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said network-wide performance problem is caused by anyone or more of the problems selected from:

operability problem of said at least one network element, operability problem of the network, failure of said at least one network element, failure of the network, integrity problem of said at least one network element, integrity problem of the network, efficiency problem of said at least one network element, efficiency problem of the network, decreased processing speed of said at least one network element, decreased processing speed of the network, usage capacity problem of said at least one network element, and usage capacity problem of the network.

Claim 44: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said status information includes one or more from:

network status, disk status, database status, memory status, CPU status, and operating system status.

Claim 45: (ORIGINAL) The management system of claim 30 wherein said at least one network element is represented as an object within object-oriented software executing on the processor-based server, said object having one or more attributes for which said status information may be gathered.

Claim 46: (PREVIOUSLY PRESENTED) The management system of claim 45 wherein said condition includes correlation of one or more attributes of one or more objects to define the prediction of said network-wide performance problem.

Claim 47: (ORIGINAL) The management system of claim 30 wherein said management system includes a business management layer.

Claim 48: (PREVIOUSLY PRESENTED) The management system of claim 47 wherein said network-wide performance problem includes a business performance problem.

Claim 49: (ORIGINAL) The management system of claim 48 wherein said at least one network element includes an electronic commerce system for processing commercial transactions with customers via the Internet, and wherein said business performance problem includes a problem resulting in inability of said electronic commerce system processing said commercial transactions.

Claim 50: (ORIGINAL) The management system of claim 30 wherein said management system includes a service management layer.

Claim 51: (PREVIOUSLY PRESENTED) The management system of claim 50 wherein said network-wide performance problem includes a service performance problem.

Claim 52: (PREVIOUSLY PRESENTED) The management system of claim 51 wherein said service performance problem includes problem with the quality provided to subscribers or clients of the network.

Claim 53: (ORIGINAL) The management system of claim 30 wherein said management system includes a network management layer.

Claim 54: (CANCELED)

Claim 55: (ORIGINAL) The management system of claim 30 wherein said management system includes an element management layer.

Claim 56: (PREVIOUSLY PRESENTED) The management system of claim 55 wherein said network-wide performance problem includes a network element performance problem.

Claim 57: (ORIGINAL) The management system of claim 30 wherein said management system includes a plurality of at least the following layers: business management layer, service management layer, network management layer, and element management layer, and wherein a plurality of said layers are correlated within said at least one rule.

Claim 58: (PREVIOUSLY PRESENTED) The management system of claim 30 wherein said management system includes a plurality of at least the following layers: business management layer, service management layer, network management layer, and element management layer, and wherein said network-wide performance problem is a problem within any of said plurality of layers.

X. EVIDENCE APPENDIX

FIG. 1

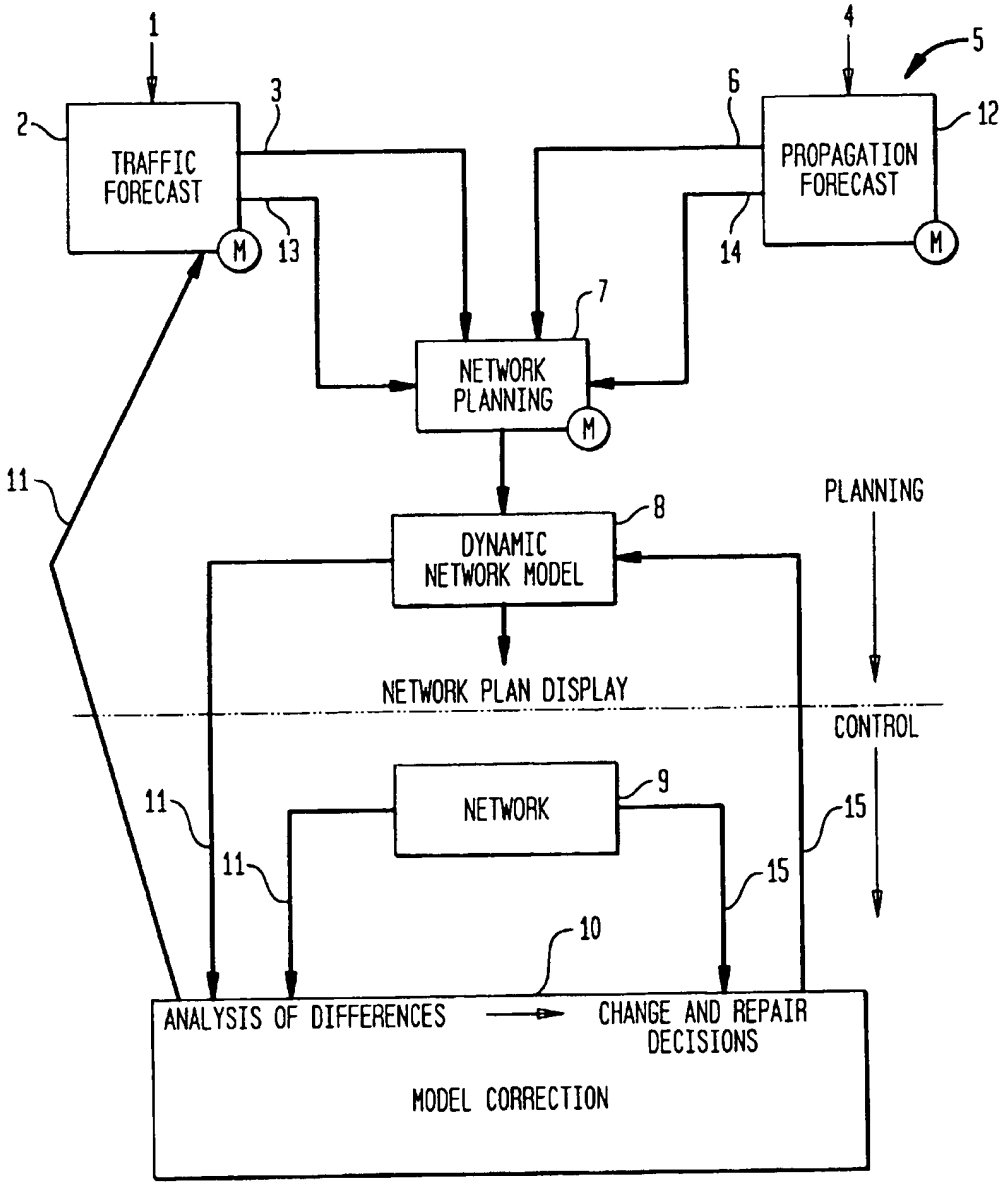
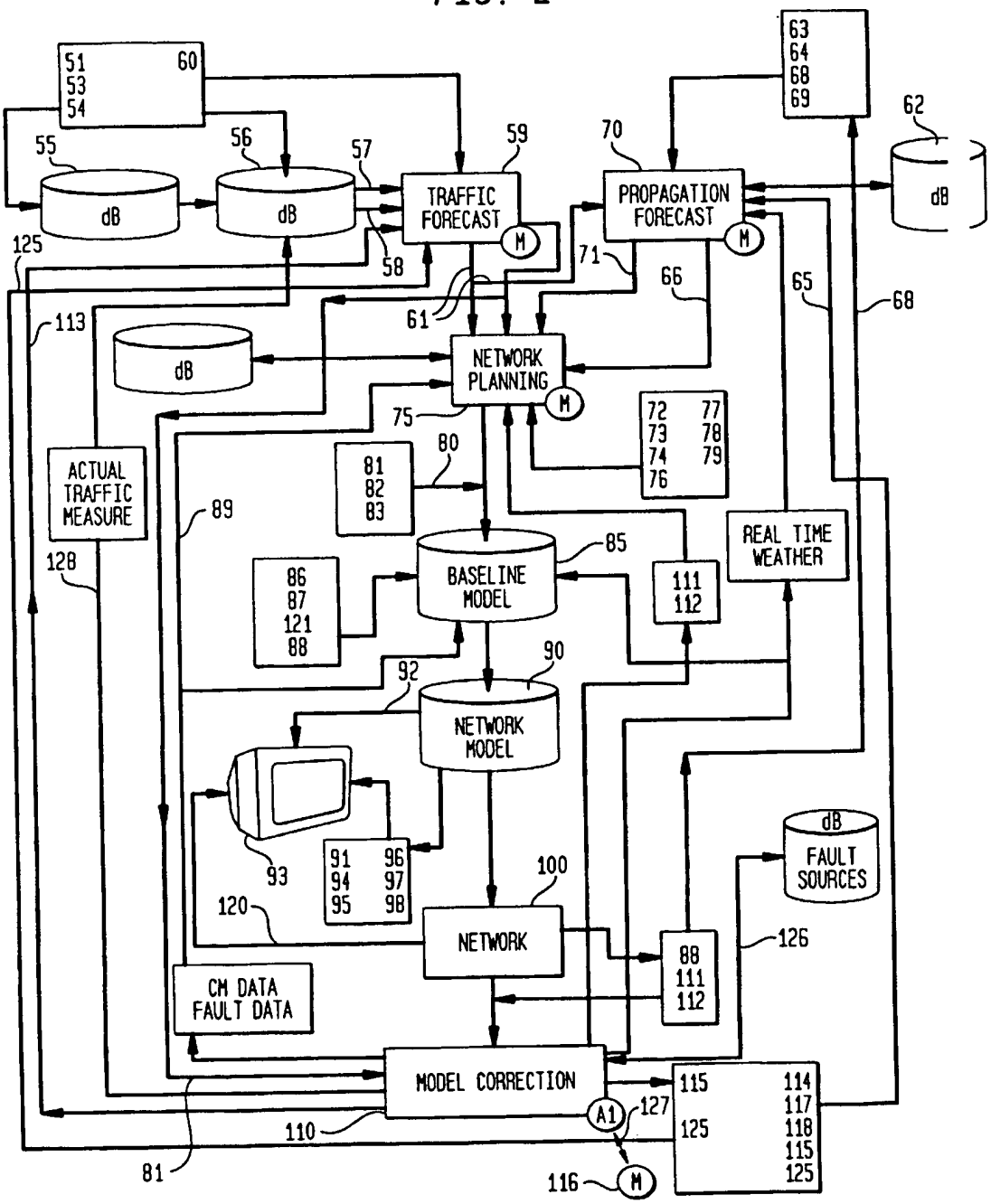


FIG. 2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71
66
65
68
61
113
dB
NETWORK PLANNING
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72
73
74
76
77
78
79
80
81
82
83
ACTUAL TRAFFIC MEASURE
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128
REAL TIME WEATHER
85
86
87
121
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BASELINE MODEL
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112
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NETWORK MODEL
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96
97
98
100
dB
FAULT SOURCES
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NETWORK
126
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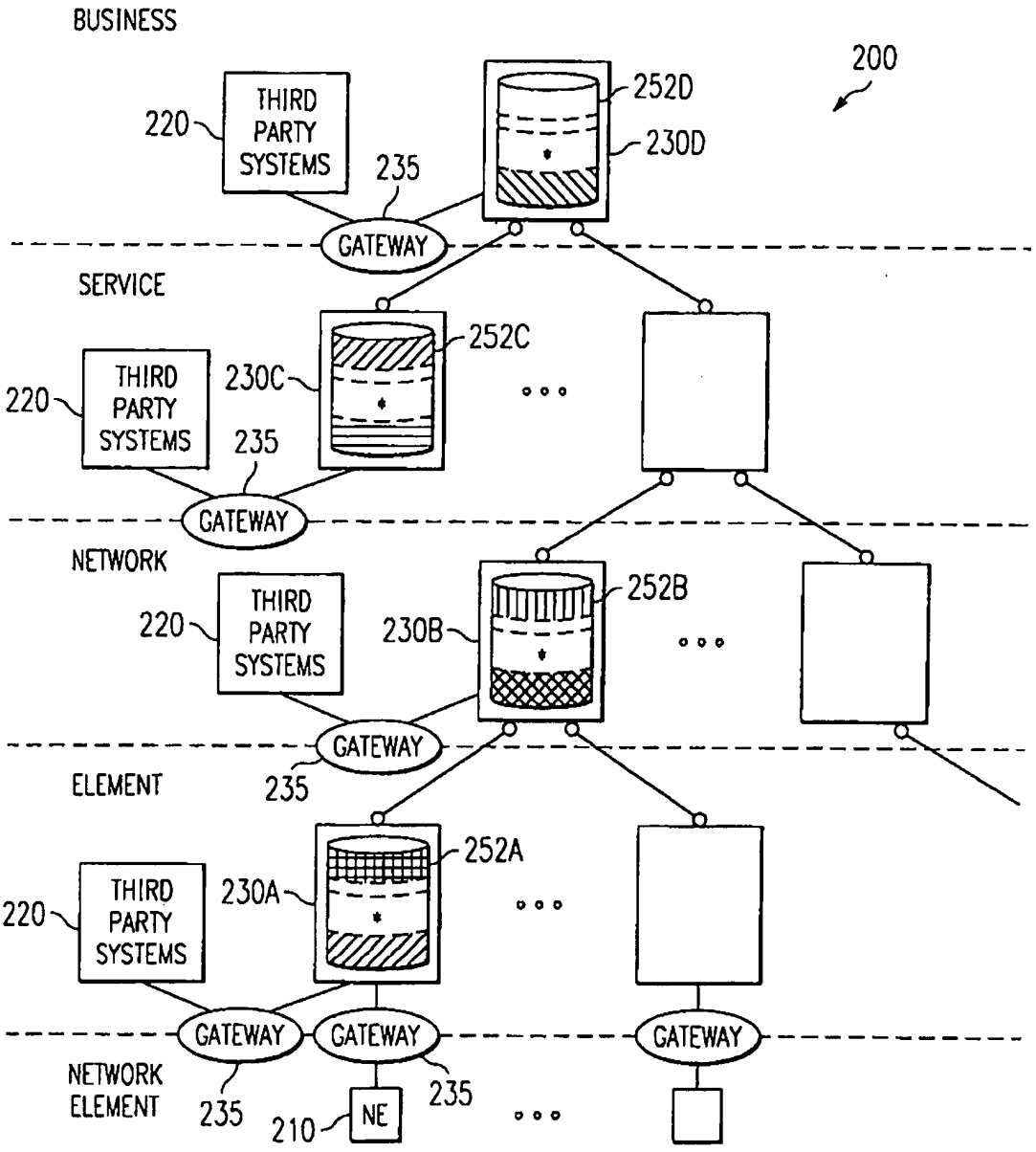
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NETWORK
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THIRD PARTY SYSTEMS
230B
252B
GATEWAY
ELEMENT
235
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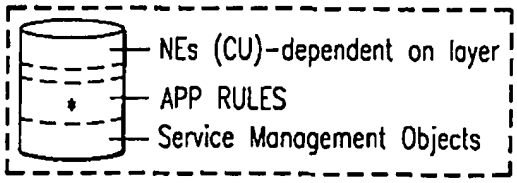
FIG. 4


NEs (CU)-dependent on layer
APP RULES
Service Management Objects

XI. RELATED PROCEEDINGS APPENDIX

No related proceedings.

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